

WHAT IS CLAIMED IS:

1. A microporous soundproofing material constituted of an expanded material formed through the step of impregnating a thermoplastic elastomer with an inert gas at a high pressure and then decompressing the impregnated elastomer.

2. The microporous soundproofing material of claim 1, which is constituted of an expanded material formed through the step of impregnating an unexpanded molding comprising a thermoplastic elastomer with an inert gas at a high pressure and then decompressing the impregnated molding.

3. The microporous soundproofing material of claim 1, which is constituted of an expanded material formed by impregnating a molten thermoplastic elastomer with an inert gas at a high pressure and then subjecting the impregnated elastomer to molding simultaneously with decompression.

4. The microporous soundproofing material of claim 1, wherein the expanded material constituting the soundproofing material has undergone heating after the decompression.

5. The microporous soundproofing material of claim 1, wherein the inert gas is carbon dioxide.

6. The microporous soundproofing material of claim 1, wherein the inert gas is in a supercritical state during the impregnation.

7. The microporous soundproofing material of claim 1, wherein the inert gas has a pressure of 10 MPa or higher during the impregnation.

8. The microporous soundproofing material of claim 1,

wherein the expanded material constituting the soundproofing material has closed cells having an average cell diameter of from 0.1 to 300  $\mu\text{m}$  evenly distributed throughout the whole inner parts thereof and has a cell density of from  $10^5$  to  $10^{14}$  cells per  $\text{cm}^3$ .

9. The microporous soundproofing material of claim 1, wherein the expanded material constituting the soundproofing material has closed cells having an average cell diameter of from 0.1 to 20  $\mu\text{m}$  evenly distributed throughout the whole inner parts thereof and has a cell density of from  $3 \times 10^8$  to  $10^{14}$  cells per  $\text{cm}^3$ .

10. The microporous soundproofing material of claim 1, wherein the expanded material constituting the soundproofing material has a relative density of 0.6 or lower.

11. The microporous soundproofing material of claim 1, wherein the expanded material constituting the soundproofing material has a compressive load at 50% compression of 20  $\text{N}/\text{cm}^2$  or lower.

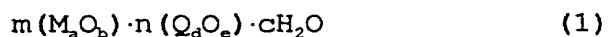
12. The microporous soundproofing material of claim 1, wherein the expanded material is made of a mixture comprising a thermoplastic elastomer and a thermoplastic polymer which is not a thermoplastic elastomer.

13. The microporous soundproofing material of claim 1, wherein the expanded material constituting the soundproofing material contains a flame retardant.

14. The microporous soundproofing material of claim 13, wherein the flame retardant comprises a hydrated metal

compound, a bromine compound or a mixture thereof.

15. The microporous soundproofing material of claim 14, wherein the hydrated metal compound is a composite metal hydroxide represented by formula (1):



wherein M and Q represent different metal elements and Q is a metal element belonging to a group selected from Groups IVa, Va, VIa, VIIa, VIII, Ib, and IIb of the periodic table; and m, n, a, b, c, d, and e may be the same or different and each is a positive number.